

## **REMARKS**

Claims 1-20 remain pending in the application. Reconsideration is respectfully requested in light of the following remarks.

### **Section 101 Rejection:**

The Examiner rejected claim 8 under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

The Examiner rejected claim 8 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The Examiner asserts:

The rejection for claim 8 is maintained because the various “means for” are broadly and reasonably understood as being software *per se*. Therefore, the claim is interpreted to be a software system *per se*, which is non-statutory. A piece of hardware should be added to the claim, or the software system claimed on a computer readable storage medium.

Applicants remind the Examiner that MPEP 2106.C specifically states:

Where means plus function language is used to define the characteristics of a machine or manufacture invention, claim limitations must be interpreted to read on only the structures or materials disclosed in the specification and “equivalents thereof.” (Emphasis Added)

Also, the court held (*In re Donaldson*, 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1848 (Fed. Cir. 1994)):

The plain and unambiguous meaning of paragraph six is that one construing means-plus-function language in a claim must look to the specification and interpret that language in light of the corresponding structure, material, or acts described therein, and equivalents thereof, to the extent that the specification provides such structure.

Clearly, the Examiner must interpret means plus function as reading on the structures and materials disclosed and not “software *per se*”. As noted in Applicants’ previous Response, claim 8 clearly recites a system having structure, that is, one including means to perform the various functions recited therein. Instead of software *per*

*se*, the means are, for example, the computer structure (e.g. computer hardware) to perform the recited functions. For example, the means may correspond to computer hardware configured to run software to perform the recited functions. Correspondingly, Applicants assert that the section 101 rejection is **improper**.

In response to these arguments, Applicants note that the Examiner provides an example from Applicants' own disclosure. In particular, the Examiner states:

In another example, the claimed ‘means for loading’ is performed on a host machine (para. 0034). A means performed on a host machine is interpreted to mean that the ‘means’ is software, and the software is used for instructing the host machine to perform its task.

As the Examiner has noted, a host machine is an example of hardware involved in performing the task (“the software is used for instructing **the host machine to perform its task**”) and is therefore an example of a means for performing functionality (e.g., for executing software modules described in the specification). Correspondingly, the Examiner admits that physical mechanisms (that are described in the specification) must perform the instructions stored in the ‘software per se’. The software components described and illustrated in the specification are described as being implemented on computer hardware. The Examiner cannot focus on the description of software alone and ignore the fact that the software is specifically described in the specification as implemented on computer hardware. The statute requires that “means” limitations be interpreted as structural limitations. Per 35 USC § 112, paragraph 6, the ‘means for’ recited in this claim cannot be ‘software per se’ and that this rejection is **improper**. This issue is addressed by *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998). In *State Street* the claim was a “means” claim for a software invention. The court did not consider the means claim to be software *per se*. Thus, the Examiner’s rejection is directly counter to 35 USC § 112, paragraph 6 and directly counter to *State Street*.

## **Section 112, First Paragraph, Rejection:**

The Examiner rejected claims 1-20 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. More specifically, the Examiner asserts that Applicants' disclosure describes "generating a database clone from the storage checkpoint" and not specifically reciting "data of the database clone comprises data from the storage checkpoint". Applicants submit that any one of ordinary skill in the art would understand that, by definition, in order to generate a database clone from the storage checkpoint, the database clone must include data from the storage checkpoint. Applicants also refer the Examiner to Fig. 5 and the description thereof.

The Examiner further asserts that "wherein said load updates the storage checkpoint" is not described in the specification and that "loading new data into the database clone" does not describe this specific process. Applicants note that Applicants' disclosure described in numerous places that, for example, "a database clone may be generated from the storage checkpoint", "new data is loaded into the database clone", and that the "checkpoint may then be switched to the primary file system". Applicants' disclosure is directed to a system for refreshing databases, that the database clone stores the new information, and that the checkpoint is then used as the primary file system. One of ordinary skill in the art would clearly understand that loading data into a database clone generated from a storage checkpoint, by definition, updates the storage checkpoint in the clone.

As repeatedly stated by the Board of Patent Appeals & Interferences and by the Court of Appeals for the Federal Circuit, it is well settled that the claimed invention does not have to be described in *ipsis verbis* in order to satisfy the description requirement of §112. *Jacobs v. Lawson*, 214 USPQ 907, 910 (B.P.A.I. 1982). "The subject matter of the claim need not be described literally in order for the disclosure to satisfy the description requirement." M.P.E.P. 2163.02. Applicants also note that the section 112 description requirement may be satisfied by principles of inherency. *In re Reynolds*, 443 F.2d 384 (CCPA 1971). The Examiner's application of the description requirement is "yet another

instance of the sort of ‘hypertechnical application’ of the written description requirement of §112” that has been repeatedly criticized by the court. *In re Driscoll*, 195 USPQ 434, 438 (C.C.P.A. 1977); *In re Johnson*, 558 F.2d 1008, 194 USPQ 187 (CCPA 1977); *Engineering Development Laboratories v. Radio Corp. of America*, 68 USPQ 238, 241-42 (2d Cir. 1946).

Thus, for at least the reasons above, Applicants assert that the specification does provide adequate written description under 35 U.S.C. § 112 and that the rejection should therefore be removed.

### **Section 112, Second Paragraph, Rejection:**

The Examiner rejected claims 1-20 under 35 U.S.C. § 112, second paragraph as being indefinite. More specifically, the Examiner asserts

It is unclear what is meant by ‘switching the storage checkpoint to be the file system for the production database’ at least because the storage checkpoint is not claimed with more than one state (so that it can accomplish any switching), and because the storage checkpoint is already of the file system data of the production database (line 6) and therefore does not need to be ‘switched’ in order to ‘be’ the file system data of the production database (last limitation).

Similar to arguments above, Applicants assert that the claim includes generating a storage checkpoint of the production database, generating a database clone, loading new data to the database clone, **wherein said load updates the storage checkpoint**, and switching the storage checkpoint to be the file system data for the production database. Clearly, the limitations of the claim show more than one state for the checkpoint (see emphasized section above). Moreover, the state of the checkpoint is not relevant to its ability to become the file system data for the production database. The storage checkpoint is expressly recited as being generated from the file system data of the production database. Thus, contrary to the Examiner’s assertion, the storage checkpoint is a distinct entity from the file system data from which it was created. Clearly, the storage checkpoint would not serve as the file system data for the production database until it was so switched, thus replacing the previous source as the new file system data for the

production database. Correspondingly, Applicants submit that the claims are not indefinite under 35 U.S.C. § 112 as asserted by the Examiner. Removal of the Section 112 rejection is therefore requested.

**Section 103(a) Rejections:**

The Examiner rejected claims 1-3, 5-11, 13-17 and 19-20 under 35 U.S.C. § 103(a) as being unpatentable over Moore et al. (U.S. Publication 2003/0092438) (hereinafter “Moore”) in view of Lomet (U.S. Patent 6,578,041), and claims 4, 12 and 18 as being unpatentable over Moore in view of Lomet and further in view of AAPA (Applicant Admitted Prior Art).

The Examiner rejected claims 1-3, 5-11, 13-17 and 19-20 under 35 U.S.C. § 103(a) as being unpatentable over Moore et al. (U.S. Publication 2003/0092438) (hereinafter “Moore”) in view of Lomet (U.S. Patent 6,578,041), and claims 4, 12 and 18 as being unpatentable over Moore in view of Lomet and further in view of AAPA (Applicant Admitted Prior Art).

**Regarding claim 1, Moore in view of Lomet fails to teach or suggest generating a storage checkpoint of file system data of the production database.** In the instant Office Action, the Examiner relies on paragraph [0019] of Moore to teach the checkpoint:

When the primary processor 58 reaches a steady state (i.e., stable wireless communications) the stable data is written to the replica state database 78 within the control block 70. The checkpoint service 82 is notified that the state data is available for transfer to the secondary controller 54. The checkpoint service 82 replicates the state data and stores it in the replica state database 80.

Thus, in Moore a *checkpoint service* copies data from a first database (replica state database 78) to a second database (replica state database 80). Moore nowhere describes or suggests a **checkpoint of file system data of a production database** as recited in the claims; in fact, Moore nowhere mentions a file system at all. Instead, Moore teaches copying of data from one database to another. Thus, Applicants assert

that Moore in view of Lomet fail to teach or suggest the checkpoint of file system data recited in the claims.

In response to these arguments, the Examiner notes that Moore can be used with ‘any computer system’ and that Lomet must have a file system to operate. More specifically, the Examiner admits that Moore fails to teach “file system data” and asserts, “Furthermore, Lomet teaches a computer system which works on file system data” citing Figure 2 and text starting from column 8, line 15. However, the cited portion only describes the computer system and memories that are used and fails to describe anything related to the file system data recited in claim 1. Applicants assert that computer systems having file systems and copying data on the file system does not constitute generating a storage checkpoint of file system data of a production database. Even a cursory reading of Applicants’ disclosure would not lead one to mistake copying data with the specific operation of generating a storage checkpoint of file system data of a production database as recited in the claims. One skilled in the art understands that file system data is not the same as any data stored in memory.

Furthermore, the Examiner has failed to provide a proper motivation to combine Moore and Lomet. In the instant Office Action, the Examiner merely asserts “The motivation would have been to operate on a computer (Moore, paragraph 0013) with a file system (Lomet, column 9, lines 4-24), and to apply Moore to a computer system other than a wireless cellular system”. Applicants assert that merely pointing out the result of (or identifying) a combination cannot be construed as a motivation to perform the combination. As the Examiner is certainly aware, the showing of a suggestion, teaching, or motivation to combine prior teachings “must be clear and particular . . . Broad conclusory statements regarding the teaching of multiple references, standing alone, are not ‘evidence’.” *In re Dembiczaik*, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). The art must fairly teach or suggest to one to make the specific combination as claimed. That one achieves an improved result by making such a combination is no more than hindsight without an initial suggestion to make the combination.

**Additionally, Moore in view of Lomet fails to teach or suggest generating a database clone, wherein the data of the database clone comprises data from the storage checkpoint.** With regard to this feature, the Examiner again cites paragraph [0019] of Moore which only describes the replication of data from one database to another. Moore fails to teach generation of a checkpoint or a database clone; in fact, Moore fails to suggest any clone generation of any kind. Moore simply states that data may be transferred from one (already extant) database in a first controller to a second (already extant) database in a second controller. Clearly, Moore does not teach generating a checkpoint of file system data or generation of a database clone as recited in the claims. Correspondingly, Applicants assert that Moore in view of Lomet fails to teach or suggest this feature of claim 1.

Furthermore, Applicants note that the Examiner cites “using checkpointing service” as creating a checkpoint. As one skilled in the art understands a checkpointing service is a service which creates a backup file or database (or transfers data thereto) and is not the checkpoint itself. Applicants note that in the instant Office Action, the Examiner seems to imply that the checkpoint service provides ‘checkpoint data’ to the replica database; however, there is no reference to the term ‘checkpoint data’, no teaching or suggestion that a checkpoint is generated other than the replica database, and an explicit teaching in the cited paragraph [0019] that the checkpoint service replicates information from the primary database to the replica database. Correspondingly, Applicants assume that the Examiner must therefore interpret the replica database (to which the checkpointing service provides state data from the primary database) as the checkpoint of claim 1. Applicants assert that the replica database cannot be both the **checkpoint** and the **database clone** of claim 1. Furthermore, the replica database cannot **comprise data from the storage checkpoint** as there is no teaching or suggestion of a storage checkpoint **and** a database clone in Moore or Lomet (singly or in combination).

**With further regard to claim 1, Moore in view of Lomet fails to teach or suggest loading new data to the database clone, wherein said load updates the storage checkpoint, and wherein the production database is available for access by**

**users during said load.** Applicants note that the Examiner has amended this citation to paragraph [0022] of Moore which relates to “upgrading the application on the new primary system”. Applicants assert that one skilled in the art would not mistake loading new data to the database clone with installing new application software. Clearly, **installing application software** on a computer is not the same as loading new **data** into **a database clone**. Application updates do not relate to updating data in databases. Thus,

Applicants note that the Examiner admits that Moore does not expressly teach **wherein the production database is available for access by users during the loading** and instead relies on Lomet to teach this limitation. The Examiner asserts that Lomet teaches a database is available for access during loading to a clone in FIG. 2, column 3, lines 25-30, and column 6, lines 32-42 and 45-55. However, these citations do not describe operations of a refresh mechanism for a production database using a database clone, as recited in Applicants’ claims, but instead first describe the difference between “online” and “offline” backup processes and second describe a back-up mechanism in which a stable database is divided into disjoint partitions, each of which may be backed-up independently while update activity continues. Contrary to the Examiner’s assertion, there is nothing in this citation that teaches the use of a database clone, as would be understood by one of ordinary skill in the art. More specifically, Lomet fails to disclose the load recited in the claims, where the load updates the storage checkpoint. Similar to Moore, Lomet only teaches a first (stable) database and a backup database. Lomet nowhere indicates a checkpoint of file system data **and** a database clone, where loading new data into the database clone updates the storage checkpoint. Therefore, the combination of Moore and Lomet does not teach or suggest all the limitations of Applicants’ claim 1.

Furthermore, Moore in view of Lomet also fails to teach or suggest **switching the storage checkpoint to be the file system data for the production database**. As argued above, Moore in view of Lomet fails to teach the storage checkpoint recited in the claims and therefore cannot teach this feature. However, Applicants note that the Examiner cites paragraph [0020] of Moore with regard to this feature. Paragraph [0020] states:

In the event of a fault or failure in the primary controller 52... Upon shutdown of the primary controller 52, the secondary controller 54 assumes processing control of the system 50. The secondary controller 54 reads the replica state database 80, rebuilds its local database 68, and is therefore able to take control with little or no interruption of wireless service.”

Thus, this citation clearly describes recovery from a fault or failure condition in which a secondary controller assumes processing control of wireless communication stabilization system 50. It has nothing to do with a refresh mechanism switching the storage checkpoint to be the file system data for the production database, as recited in Applicants' claim 1. Instead, a new database is used in Moore's system, i.e., the database in secondary controller 54 and not the database in the primary controller 52 which the Examiner cited as the production database. Furthermore, there is nothing in this citation that teaches or suggests the file system data of the production database at all, much less one that corresponds to a storage checkpoint generated by a refresh mechanism.

In the instant Office Action, the Examiner responds to this argument by asserting, “As to the interpretation of ‘refresh mechanism’ for switching, (p. 10 of Amendment, second to last line), the examiner interprets this as software that facilitates the switching of the primary and secondary database (thus a mechanism ‘refreshing’ the control of the database)”. Applicants assert that one of skill in the art would not interpret a failover system as cited in paragraph [0020] with the a refreshing mechanism recited in claim 1. The failover mechanism of Moore occurs when fault or failure occurs; said another way, it allows the backup controller to resume operation without interruption. This fails to teach or suggest switching the storage checkpoint (which was updated by loading **new data**) to be the file system data for the production database. Thus, for at least the reasons above, Moore in view of Lomet fails to teach or suggest this feature of claim 1.

For at least the following reasons, the rejection of claim 1 is not supported by the cited art and removal thereof is respectfully requested. Independent claims 8, 9 and 15 include limitations similar to claim 1, and so the arguments presented above apply with equal force to these claims, as well.

Applicants also assert that numerous ones of the dependent claims recite further distinctions over the cited art. However, since the rejection has been shown to be unsupported for the independent claims, a further discussion of the dependent claims is not necessary at this time.

## **CONCLUSION**

Applicants submit the application is in condition for allowance, and prompt notice to that effect is respectfully requested.

If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5760-12400/RCK.

Respectfully submitted,

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